

### REMARKS

The numbering of the claims was not in accordance with 37 CFR 1.126. Applicant has renumbered the claims by amendment.

The disclosure at page 4, line 28 was corrected because applicants do not have the exact reference for the prior art referred to. A clean copy of the amended paragraph is included.

The definitions on page 11 were corrected to correspond to the definitions in the claims. The definition for **OR'** was deleted because it does not appear in the formulas that are defined. **U** was added to **X, Y** in the definitions for Formulas II, III and IV. Support for this addition is found in the original claims that form part of the original disclosure. In the definition of **Z**, for Formula I, Substituted Alkyl was added, which also finds support in the original claims. In the definition of **R** for Formulas II, III and IV, Glycidyoxyalkyl was added to correct a misspelling. In the definition of **Z** for Formulas II, III and IV, "substituted" was changed to Substituted. Pages 11 and 12 were corrected to clarify the language to make it clear that an alkyl substituted trialkoxysilane or dialkyl substituted dialkoxysilane may be reacted with a silane diol. A copy of amended page 11 is included.

At page 13, line 1, the comma before the word "or" has been deleted to make the specification consistent with the original claims. The inclusion of the comma was a typographical error. It is now clear that the phosphor dopant may be YAG base phosphor or moisture sensitive phosphor nano-particles or an organic material selected from organic dyes or metal complexes. The specification is now consistent with the claims in this regard. A clean copy of the amended paragraph which begins on page 12 and continues to page 13 is included

The claims were objected to because of certain informalities and under 35 U.S.C. 112, first paragraph. Applicants have inserted the word "or" in the claims and has made the letter sizes consistent in the definitions, where requested by the Examiner. The

differences between the definitions for the Formulas in the claims and in the specification have been amended so that they are now consistent.

The claims were also objected to under 35 U.S.C. 112, second paragraph. Applicants have corrected the language in the specification and claims to make it clear that an alkyl substituted trialkoxysilane or a dialkyl substituted dialkoxysilane is reacted with a silane diol. Claims 26 and 27 have been amended to depend upon claim 18.

Claims 14 and 15 were found to contain allowable subject matter, but were objected as being dependent upon rejected claims. Claims 14 and 15 have been rewritten in independent form including all the limitations of the base claim and any intervening claims. The subject matter of claims 14 and 15 have been incorporated into amended claim 1. Therefore, it is submitted that claim 1 and dependent claims 2, 3, 5 and 7-12 are allowable.

Claims 1-5, 11, 16, 18 and 19 were rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent 6,984,483. Applicants submit the amendments to the claims render them patentable over this reference. Applicants will direct their remarks to amended claims 18-22, 26, 27 and new claims 34-36.

Applicants have amended these claims, including independent claim 18, to require that a phosphor dopant, as defined in the claims, be added. Claim 34 specifies the most preferred phosphor dopant, which comprises YAG base phosphor or moisture sensitive phosphor nano-particles. Claim 35 specifies a process for producing the material of claim 18 by reacting an alkyl substituted trialkoxysilane or dialkyl substituted dialkoxysilane with a silane diol, wherein the alkyl group has from 1 to 8 carbon atoms, wherein the reaction of the alkyl substituted trialkoxysilane or dialkyl substituted dialkoxysilane silane with the silane diol is carried out in the presence of a catalyst. The claimed process further comprises adding to the sol-gel spin-on glass material a phosphor dopant as nano-particles. The phosphor dopant nano-particles comprises a YAG base phosphor, a moisture sensitive phosphor or an organic material selected from organic dyes or metal complexes.

moisture sensitive phosphor nano-particles or an organic material selected from organic dyes or metal complexes.

Again, there is no suggestion that this process will provide a sol-gel spin-on-glass material that is useful in the production of devices such as waveguides. Again, there is no suggestion or disclosure in the prior art to add a phosphor dopant to provide applicants' claimed sol-gel spin-on-glass material. This cited prior art does not support the assumption that a product produced by a similar process, without the suggestion or disclosure to add a phosphor dopant, would provide applicants' claimed product and the claimed process for producing that product. Therefore, applicants' submit that the amended claims are both novel and unobvious over U.S. 6,818,721.

Claims 1-13, 16-18, 21 and 23-27 were also rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent 6,818,721. The Examiner stated that U.S. 6,818,721 discloses producing a silicic acid polycondensate by reacting diphenylsilanediol with a silane that can have the formula  $R_2Si(OR')_2$ , where  $R'$  is an alkyl and  $R$  can be  $C_{1-18}$  alkyl. For the reasons previously set forth with regard to the rejection of the claims under 35 U.S.C. 102(e) as anticipated by U.S. Patent 6,818,721, applicants submit that the amended claims are both novel and unobvious over U.S. 6,818,721.

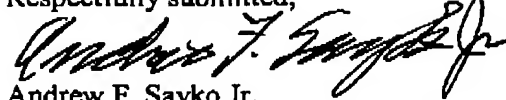
In view of the foregoing amendments and remarks, it is submitted that the claims are now in condition for allowance. Such an indication, by the issuance of as Notice of Allowance, is requested.

The Examiner stated that U.S. 6,984,483 discloses that silicic acid condensates can be produced by reacting diphenylsilane diol with a silane that can have the formula  $R_2(SiOR')_2$  where  $R'$  is alkyl and  $R$  can be an  $C_{1-18}$  alkyl. There is no suggestion that this process will provide a sol-gel spin-on-glass material that is useful in the production of devices such as waveguides. In addition, there is no suggestion or disclosure in the prior art to add phosphor dopant nano-particles to provide applicants' claimed sol-gel spin-on-glass material. The cited prior art does not support the assumption that a product produced by a similar process, without the suggestion or disclosure to add a phosphor dopant, would provide applicants' claimed product and the claimed process for producing that product. Therefore, applicants' submit that the amended claims are both novel and unobvious over U.S. 6,984,483.

Claims 1-6, 9-13, 16-20, 22-23 and 25-27 were rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent 6,818,721. Applicants submit the amendments to the claims render them patentable over this reference. Applicants will direct their remarks to amended claims 18-22, 26, 27 and new claims 34-36.

The Examiner stated that U.S. 6,818,721 discloses producing a silicic acid polycondensate by reacting diphenylsilanediol with a silane having the formula  $RSi(OR')_3$  where  $R'$  is alkyl and  $R$  can be alkyl, Methacryloxyalkyl or Glycidyoxyalkyl. As pointed out above, applicants have amended these claims, including independent claim 18, to require that a phosphor dopant, as defined in the claims, be added. Claim 34 specifies the most preferred phosphor dopant, which comprises YAG base phosphor or moisture sensitive phosphor nano-particles. Claim 35 specifies a process for producing the material of claim 18 by reacting an alkyl substituted trialkoxysilane or dialkyl substituted dialkoxysilane with a silane diol, wherein the alkyl group has from 1 to 8 carbon atoms, wherein the reaction of the alkyl substituted trialkoxysilane or dialkyl substituted dialkoxysilane silane with the silane diol is carried out in the presence of a catalyst. The claimed process further comprises adding to the sol-gel spin-on glass material a phosphor dopant. The phosphor dopant comprises YAG base phosphor or

Respectfully submitted,



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**CERTIFICATE OF TRANSMISSION (37 CFR 1.8a AND 1.10)**

I hereby certify that this correspondence (26 pages) is, on the date shown below, being transmitted by facsimile to the United States Patent and Trademark Office at Fax number (571) 273-8300.

Andrew F. Sayko Jr.: 

Date: 4 September 2006